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## ORIGINAL COMMUNICATIONS.

### ORIGIN, DEFINITION AND DIVISION OF TISSUES.

BY C. HEITZMANN OF NEW YORK.*

The formation of tissues is a question much discussed by biologists and embryologists. New, and it is expected plain views can be obtained concerning this difficult matter, by reducing the germ of the higher animals into the schema of a single lump of bioplasson, f. i., an amœba. Such an attempt of simplifying the ideas of the significance of the "germinal layers" is made in this article.

#### ORIGIN.

All complex organisms—the higher developed animals—originate from an ovum of the female impregnated by the admixture of spermatozoids of the male. The ovum being enclosed by a hyaline layer (zona pellucida of Von Baer), is composed of living matter, in reticular arrangement (the germ of Remak), which contains a nucleus-like body, the vesicula germinativa with a varying number of coarser

*The author is about to publish his biological researches made in the last ten years in the shape of a book, entitled, "Microscopical Morphology," and communicates a portion of his work as a specimen of the whole.

granules, the nucleoli, the maculæ germinativæ. In mammals and some amphibia, the germ *in toto* is transformed into the animal, whereas in the eggs of birds, scaly amphibia and osseous fishes, a portion of the germ is changed into yolk which serves as a pabulum. After the spermatozoids have entered the germ and after fructification has taken place, its living matter increases rapidly, the vesicula germinativa disappears, and the germ, by a process of division, splits at first into two portions, separated from each other by a light, narrow rim, but connected by extremely delicate filaments which traverse the light rim. Each half of the germ splits into a number of lumps which, in the same manner as the first half, remain connected; thus the segmentation of the ovum results in the formation of numerous corpuscles, which by collecting in a flat layer represent the germinal disk of Pander in the germ of the impregnated egg of the chicken. The segmentation was first observed by Prevost and Dumas (1824), in the ovum of frog; by Coste (1848), in the ovum of fowl, and by Bischoff (1842), in the ovum of mammals. According to the last-named observer the subdivision into smaller elements in the rabbit's germ does not go on uniformly throughout its whole extent, inasmuch as in the germ a cavity is formed around which the elements of segmentation accumulate, in order to build up the germ-membrane proper with a slightly thickened spot, the germ-hill of Von Baer.

The first differentiation of the germ-disk, or the germ-membrane, consists in the formation of layers, of which at first two, shortly afterward three, are recognizable. The formation of such layers became known first through the researches of Caspar Friedrich Wolff (1768), who claimed that the whole system of the intestines is developed from simple laminæ. Pander, in 1817, perfected the theory of Wolff; he knew that after hatching had continued for twenty-four hours, three easily separable layers could be found in the germ-membrane. Von Baer, in 1822, described four layers, of which the two upper he termed the animal, the two lower the vegetative. Remak, in 1855, maintained that the germ-membrane of the impregnated but unhatched egg consists of two layers, and that, upon hatching, the lower is again split into two layers, the lower of which lines the one above it like an epithelial cover. Having ascertained the individuality of each of these three layers, he endeavored to find out their relation to the developing organs; he called the upper layer the horny or sensorial; the middle layer the motorial and germinative; the under layer intestinal and glandular. According to S. Stricker's researches (1860–1870),

the original under layer of Remak consists—at least above the germ-cavity, and before the middle layer has made its appearance—of only a single stratum of flattened cells, and the formation of the middle layer is due to the immigration between the two layers of new cells. He termed the upper layer of Remak the combined horny and nervous layer, as he found that in batrachia the horny layer is quite distinct from the nervous layer, the former being uniformly thin, the latter, on the contrary, thickened even in the earliest stages in that part where later the brain is formed. He is unable to confirm, despite of Remak's positive assertions, that nervous elements are also developed from the middle layer.

Stricker (Manual of Histology, Amer. edition, 1872), in speaking of the development of the fowl's germ, says: "The cells of the under layer change their form and arrangement during the first hours of incubation. They become flattened, and, when seen in transverse section, appear spindle-shaped. Hence, after incubation has gone on for a few hours, we can ascertain beyond even the shadow of a doubt that there are two, and only two, layers. * * * The under layer, immediately after its separation from the subdivided germ, consisted in some places of a single thickness of cells, while in other places, in a transverse section, small heaps of cells could be recognized projecting from the layer. * * * Peremeschko, however, has made the communication that the large granular cells, lying on the bottom of the germ-cavity, increase very considerably in numbers during the first hours of incubation. Now, since with this increase in numbers there is not at the same time a corresponding diminution in size, it is very natural to suppose that the cells which project from the under germ-layer fall to the bottom of the cavity. This suggestion appears all the more probable when we recall the fact that some of the elements of segmentation, which are situated in the lower portion of the germ, remain lying at the bottom of the cavity at the time when the germ, in the production of this very cavity, separates itself from the adjacent parts. * * * We are led to conjecture that the granular bodies, which before lay at the bottom of the cavity, have found their way to the space between the two first germ-layers." Stricker, based upon Oellacher's researches, says that similar relations are also found in the trout's germ.

At present investigators agree that the body of vertebrates is at first a flat sheet consisting of three main layers, for the designation of which the following names have been proposed: *epiblast*, the upper

layer; *mesoblast* the middle layer, and *hypbolast* the under layer. Of these the epiblast and hypoblast are very thin, composed of but one layer of plastids, whereas the mesoblast is a bulky heap of plastids, all of which are interconnected and represent the main mass of the future organism. As the originally flat sheet of the germ becomes curved downward so that the two lateral halves are bent toward the median line, where they grow together, cavities are formed in the interior of the germ, which are lined by the under layer and its derivatives. The horny layer furnishes the external covering of the body and the lining of the external glands, while the under layer provides the lining of the intestinal cavity and its glandular organs. Linings of this description are called "epithelia," and it follows that the epiblast and the hypoblast give rise to all epithelia, viz.: the epiblast to those of the skin and its epithelial formations (iucluding the crystalline lens); the hypoblast to those of the intestines and their glandular elongations and accumulations. The main bulk of the body is a product of the mesoblast; from it proceed the tissues termed connective tissue, which exclusively contains blood and lymph vessels, muscles and nerves, the latter arising from the uppermost portions of the mesoblast.

DEFINITION.

In comparing the earliest formations of the germ with a single plastid, formerly called a "unicellular organism," or a "protoplasmic body," such as the amœba, valuable hints may be obtained as to the significance of the three germinal layers. The amœba is covered by an extremely thin layer of living matter. If the amœba be flattened out and bent, its cover will represent the upper and under thin layer of the germ, which exclusively serves as an investing layer of both the outer surface and all cavities of the body, being directly or indirectly connected with the outer world. The main bulk of the amœba is living matter in reticular arrangement with thickened points of intersection of the threads of the network; this matter, retaining in the mesoblast and its derivations its reticular shape, furnishes in higher organisms, as a result of a sort of division of labor, the tissues. The nature of the tissues is determined: firstly, by the manner in which the living matter is distributed, and secondly, by the chemical changes of the fluid contained in the meshes of the reticulum. Tissues are complex formations of living matter in a network arrangement. The meshes of the network contain a liquid which allows the living matter

to exhibit contractility in a high degree, as in muscles and nerves, or the network contains a more or less solidified basis substance, which limits its contractility as in the connective tissue. The latter, on account of the presence of this solidified basis substance, mainly serves as a support for the more active tissues (muscles and nerves), and as a carrier of liquids in closed spaces.

### DIVISION.

According to this view, there are but four elementary tissues in the animal body. All these are interconnected and built up on one and the same plan.

1. *Connective tissue.* In this the reticulum of living matter contains in its meshes a more or less solid, nitrogenous (glue-yielding) basis substance; while points of intersection rich in living matter, suspended in a liquid, represent the connective tissue corpuscles. Of all tissues, only the connective tissue carries in closed vessels the liquids which serve for nutrition, such as blood and lymph. Aside from this, and acting as support for other tissues, its physiological activity is relatively small.

2. *Muscle tissue.* The reticulum of living matter at its points of intersection consists of more or less regularly distributed large prismatic, cylindrical or granular thickenings (sarcous elements), connected by thin filaments, while the meshes contain a liquid which admits of powerful contractions of the living matter in large territories. This tissue is the motor apparatus proper. It is accompanied by and attached to connective tissue, carrying the vessels.

3. *Nerve tissue.* Here the living matter is arranged in the shape of either a very delicate reticulum with very small points of intersection (ganglionic corpuscles, gray matter), or in delicate solid cords (axis cylinders), while the meshes contain a liquid which allows the living matter in limited territories to contract rapidly. This tissue serves as an apparatus of sense-impression, intellect, and sensory and motor conduction. It is largely accompanied by and mixed with connective tissue, carrying blood vessels.

4. *Epithelial tissue.* The reticulum of living matter is very delicate, and arranged in flat layers, which at certain regular intervals contain a horny cement-substance. The function of epithelial tissue is to cover the surface and the cavities of the body; it alone serves as apparatus of secretion, and for the formation of the essential parts of reproduction: spermatozoids and ovum.

## EXTRACTS FROM MY NOTE BOOK.

BY GEO. L. PARMELE, M. D., D. M. D.

A gentleman, whom one would think should know better, told me a few years since that he ascribed the preservation of his teeth—they being perfectly sound—to the fact that he, following the advice of his father, bit a large black snake, when a boy. He evidently is sincere in his belief in it as a prophylactic.

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Relating this superstition to a patient lately, he said that in one of his fishing excursions to an adjoining country town, a charcoal-burner, with whom he left his horse, related to him the capture by his son Bill of an unusually large snake, and, in ending his yarn, said, "But Bill bit." "What do you mean?" inquired the gentleman. "Why, I say Bill bit him," responded the charcoal-man, "and you can just bet he haint goin' to have no tooth-ache."

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"Our grandsires had various notions. Here was a young man of the people—speaking of the preservation of the teeth—saying that his grandfather claimed to have saved his'n by biting the spine of a rattlesnake from head to tail."—*A Newspaper Clipping.*

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Stanley, in his "Through the Dark Continent," Vol. I., page 170, speaking of the men of Chaga, says they are "distinguished by the absence of the upper and lower front teeth, and by their shaven heads, on which were left irregular combs or crescents of hair at the top of the head and over the forehead." He might have said of some Americans, that they are distinguished by the absence of the upper and lower *back* teeth.

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Eucalyptol is an antiseptic of high order. Blood and pus have been preserved in it for five months. It has no irritating or caustic action, and thus possesses all the advantages of an antiseptic, with none of the unfavorable properties.

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In speaking of eucalyptol, I ought to say that I use an extract of the *leaves*, prepared by Sander and Son, of Sandhurst, Australia, they being, I think, the sole and exclusive manufacturers. According to Prof. Mosler, care should be used not to confound it with *ol euc. c ligno* (wood oil). There is a custom among some retail druggists to substitute the fluid extract which has, of course, no relation to eucalyptol.

I have just learned some interesting things about the common Lady-Bug (coccinella septempunctata), called in England Lady-Bird and Lady-Cow, and in France Bête de la Vierge and Vache á Dieu, "which, being interpreted," mean respectively, Beast of the Virgin and Cow of God. The larva of this pretty little bug is a great benefactor to gardeners, for they devour ravenously the aphides or green-fly. There is a member of the aphides family, feeding exclusively on the hop-plant, which has been known to devastate a whole plantation in a season. Here Mrs. Lady-Bug steps in to advantage, lays her eggs on the hop-plants, and when the larva are able to forage for themselves, good-bye, Mr. Aphides. Now Madame Lady-Bug has an unpleasant odor, which is caused by an oily fluid which issues from her joints in the same manner as in the Oil Beetle. This oily fluid has a strong disagreeable scent, and is used in some parts of England as a remedy for the tooth-ache (so says the Rev. J. G. Wood, naturalist). The finger is first rubbed on the legs of the Lady-Bug and then on the refractory grinder.

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The Secretary of the American Academy of Dental Science, in his report, page 32 of the New England Journal of Dentistry, says: "Dr. Merriam of Salem made remarks on sand-paper disks, in place of a written essay." By the way, won't it be nice when reports of meetings tell *what* was said, instead of the simple mention that Dr. What's-his-name made a few remarks on what-do-you-call-it? Acting on this brief sand-paper notice, and being short of celluloid disks, I coated the back of a sheet of OO sand-paper with shell-lac varnish, punched out with a gun-wad punch some disks, and mounted them on mandrils. I was surprised to see how well they cut and stood the wear. I wish Dr. Merriam would give us his method of constructing them—in fact, all needful knowledge of the subject.

Dr. Merriam's paper referred to will appear in May number of this Journal.—Ed.

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Working eucalyptus into the root canal of a tooth, last November, the idea struck me: will eucalyptus dissolve gutta-percha? If so, what a nice thing for root-fillings. Experiment showed me it could be used for that purpose, and since then I have been making root fillings after this method with highly satisfactory results.

## PHILOSOPHICAL DENTISTRY.

BY E. PARMLY BROWN, D. D. S., FLUSHING, N. Y.

This may seem a new kind of practice to many of the profession, but, nevertheless, a wise practice, if the following definition of it is interpreted to mean *that* dentistry which does not necessitate an early grave for the operator, an impecunious family left behind, whether the dentist's life be long or short, or a life (while laboring for the amelioration of his fellow man's suffering) without a fair share of man's rightful comforts, enjoyments and even luxuries—*that* dentistry at the same time which is doing the greatest good to the greatest number of patients.

Philosophical dentistry means not only conservative practice, but it means much more: calling attention to all the surroundings, habits, and hygienic precautions of the dentist, as well as his principles of practice. I will not say that he must not be a radical, for getting at the root of matters pertaining to his calling, is his duty every day; but I will assert that he must not be a fanatic, which may lead him to extremes, interfering with the even tenor of his way, that will not guide him on to victory. Fanaticism may take the form of miserlyness, which may prove the man anything but a philosopher, if the last ten years of the millionaire dentists' life is spent in nervous agony, imagining himself going to a pauper's grave. Nor does the other extreme, pictured likewise from real life in the great metropolis of the greatest of Republics, prove to illustrate philosophical dentistry; where the genius comes to the great town, loses his head by the praise given to the skill of his hands, and habits of prodigality and conviviality lead him on to ruin and death in the hospital by delirium.

He is not a philosopher who kills himself by overwork of brain and body before he has reached his prime, for the dark ages of dentistry have passed, and many are the workers helping along the good cause, not requiring any one to make a suicidal sacrifice; for, remember, all of ye who are working for more fame than strength will allow, that the dental profession at large, is a poor dependence to rely upon for the support of your families when you are gone, for well does the writer remember one of the most heart-rending, dramatic scenes of his life, over twenty years ago, when he took the sum of *eighty-five* dollars (the total remaining after expenses) the *gift* of the dental profession to the widow of the founder of the first Dental College in the world. She, almost penniless, hopefully waiting for the expected liberal bequest, tore her hair in bitter anguish as she read the note taken by the

bearer of the pittance from the millionaire dentist, treasurer of the "Harris Testimonial Fund." "Take this back," she cried. "And this is the gratitude of the dental profession for the life of Chapin A. Harris, laid down in its behalf." But on second consideration, her pressing wants so great, she retained the amount, and literally died in a garret in London, years afterwards—a proto-martyr there must be, perhaps, in each great stride of man.

He is not a philosopher, and success not his, who drives away a new patient by telling that he has received as high as five hundred dollars for treating and filling a single tooth;—nor he who cannot cater to the whims of many, the dislikes and tastes of all. Good judgment, discretion, policy, gentlemanly deportment and good habits, with care in dress and neat and tasteful home and office surroundings, must be added to natural fitness for the calling, and proper professional training both of head and hand in order to make a life success of our scientific art.

The painter genius may be a very brute, so far as personal habits and surroundings go; but, nevertheless, his canvas may sell for thousands. The lawyers, the poets and the statesmen may be victims of intemperance, and their poisoned breath not sickening to the enraptured crowds listening to their eloquence; or the literary world, entranced by the music of their verses. But the dentist, even more than the physician, is continually in the presence of his patient, and every surrounding should be guarded with a jealous care, that not the most sensitive being who calls for treatment, should be in the least offended, either by feeling, hearing, seeing, taste or smell.

If the morrow calls for labor long and well, let the strength be treasured—food, drink, sleep, pure air—all will tell in the battle for success.

Blessed was the day to the dentist, when he was lifted up out of his "slough of despond"—the mucous, the saliva, and slimy nastiness, that he was struggling to do good work in; blessed was the day when his greatest enemy was dammed out. Let us not forget that without our modern aids to lighten the mental and physical strain to the operator, the dentists' future was in every way an uncertain and gloomy one—as statistics told us that in one single year in the past, where the death-roll of dentists in the State of New York numbered twelve, that four of the twelve were suicides, and in only one of the four could financial distress be attributed as a partial cause; where another was independently rich, and a prominent man in the profession.

In regard to the good things of this world, it may be truly said that pious people and parsons are praying for them; that lawyers are pleading for them; that children are crying for them; that beggars are asking for them; that thieves are stealing them; that misers are hoarding them, and that slaves are toiling for them, but that true philosophers alone are enjoying them.

# SELECTIONS AND ABSTRACTS.

### NATURE OF DIPHTHERIA POISON.

Drs. H. C. Wood and Henry Formad, coöperating with the National Board of Health, have been studying the nature of the diphtheritic contagium. They began with inoculating rabbits, under the skin or in muscles, with diphtheritic membranes taken from the throats of patients in Philadelphia. Not diphtheria but tuberculosis followed as an indirect and not a direct result of the inoculation, the relations between the two diseases seeming to be only apparent. When the false membrane was inserted into the tracheas of the rabbits, severe trachitis was produced, with an abundant formation of false membrane, identical with that of diphtheria. It was shown by further experiment that the production of false membrane involves nothing specific, but that any trachitis of sufficient severity is accompanied by it. The product differs from that of true diphtheria only in its containing fewer micrococci. Diphtheritic poison was next obtained from Ludington, Michigan, where a severe epidemic was raging. Inoculations with this matter, whether made under the skin, in the muscles, or in the trachea, were all followed by similar results, namely, a quick affection, a rapid spread of the local symptoms, and death; and the blood, examined during life or after death, was found to contain micrococci precisely similar to those found in the Ludington cases; and in a few instances the plants were found in the internal organs and the bone marrow. The urine of patients suffering from malignant diphtheria is full of micrococci, and is even more deadly in its effects than the membrane. When cultivated, micrococci from Ludington grew rapidly up to the tenth generation, and those from Philadelphia ceased their growth in the fourth or fifth generation, while those taken from a furred tongue, which showed similar shapes, never got beyond the third transplantation. The conclusion was drawn that the micrococci found in ordinary sore-throat and those of diphtheria differ only in their reproductive activity. When rabbits were inoculated with cultivated micrococci, diphtheria was produced with the second generation, but never with any later product. Diphtheria may be self-generated whenever conditions arise within the body or act upon it from without competent to stimulate the inert micrococci in the mouth into active ones.—*The Pop. Science Monthly.*

## THE PAST, PRESENT AND FUTURE OF MECHANICAL DENTISTRY.

BY DR. L. P. HASKELL, OF CHICAGO, ILL.

When your committee requested me to prepare a paper for this meeting, and the subject was called for, I said it might be "The Past, Present and Future of Mechanical Dentistry." So I will offer for your consideration, in a few words, some thoughts intended to awaken inquiry, and provoke discussion upon this subject.

While there has been, during the last thirty years, great advances made in Operative Dentistry, in its material, instruments and methods, it is true that during the same period there has been little or no progress made in Mechanical Dentistry, so that practically the past and present of this branch of dental science, during this epoch are synonymous terms.

The cause of this condition of things has been mainly owing to the introduction of vulcanized rubber, by means of which a horde of quacks have foisted themselves upon the community, and cheap John, "$8 set" shops have been made possible. To such an extent has a demand been created for these cheap sets, that it has discouraged the profession generally from recommending and urging upon their patients the use of a better, healthier and more artistic mode of inserting teeth, requiring more expensive materials, and greater mechanical skill and artistic taste, but, of course, producing a piece of work of greater intrinsic value.

A little more than thirty years ago the use of plaster-of-Paris for impressions began to come into general use. There has been nothing better for reliable impressions, in *all* cases, introduced since.

Thirty years ago a partner of mine, in Boston, Dr. D. H. Goodno, after much experimenting, for a suitable metal for dental dies, using zinc, tin, type metal, fusible metal, brass and iron, at last tried "Babbitt metal," then but little known, and it remains to-day the *only* metal that has all the requirements of a dental die, viz: non-shrinkage, hardness, toughness, smoothness, and melting at a low temperature, so that plates swaged upon these dies, fit the mouth as they do the plaster cast; seldom is a second die required. And yet, our dental colleges, with one exception, I think, and the great mass of the profession, still plod along in the use of zinc with all its annoyances.*

*For the information of those desiring to use Babbitt metal, the following suggestions are offered. Much of this metal that is for sale is unreliable. The better plan is to make it as follows:

Copper, 1 lb.; antimony, 2 lbs.; tin, 8 lbs.; melt in a crucible—in a forge or other intense heat—first the copper, next the antimony, then remove from the fire, and add the tin, and turn off at once into small ingots; remelt so as to thoroughly mix. After moulding and cast-

Thirty years ago, the profession were just abandoning the use of spiral springs for retaining plates in the mouth, and beginning to use atmospheric pressure for that purpose; the plate was swadged to fit the plaster cast, sometimes raising it slightly over the hard palate. To-day no better method exists.

Thirty years ago, metal plates were used exclusively, and to-day they are the only suitable material, in all respects, for artificial dentures.

Thirty years ago, "gum sections" were carved for each case, and mounted on gold plates, and were used very extensively throughout the Eastern States. But to-day the *moulded* sections have taken their place, and the result is a stereotyped, stiff and unnatural looking system of artificial teeth.

Thirty years ago, Dr. John Allen brought to the notice of the profession his "Continuous Gum Work," and it remains to-day unchallenged as the only perfect method of constructing artificial dentures, and I must confess I see little room for improvement.

Thirty years ago, it required at least a fair degree of mechanical skill to make and insert a set of artificial teeth. To-day the merest tyro can buy a set of "gum sections," a piece of rubber, take an impression, and make a so-called set of teeth. But it is sickening to witness the result, as one moves along the street, enters the public assembly, or the social circle. "Artificial teeth" written everywhere. This is the present.

What is to be the future? It is to be just what an enlightened, progressive profession shall choose to make it.

To make it what it ought to be, it will be necessary to create a public sentiment that shall demand something besides rubber or celluloid, as the best, or even a good, material for plates. Let your patients know that these vegetable bases are, to a greater or less extent, injurious to the mouth and often to the stomach; that thousands of mouths are ruined by their use, in consequence of the undue absorption of the alveolar processes, always induced, to a greater or less extent, by the non-heat-conducting qualities of these materials; and also the more serious effects often produced by the poisonous qualities of the coloring materials of red vulcanite.

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ing the Babbitt metal die, when it is cool, wash it over with whiting. For the *counter* die use lead with about ⅛ tin added, stirring till it begins to thicken, and pour. With these precautions there is no danger of the dies uniting, or of ever making a failure. Sand moistened with sweet oil will remain in condition for use many months, and is far preferable to that moistened with water.

Then the dental colleges ought to impress these facts upon their students.

More time should be devoted in these institutions to instruction in the practical details of the laboratory, even at the sacrifice of some of the dry details of theories about matters of little or no importance to the student; more instruction in ***metal*** work, and less in vegetable bases; simplifying processes, and abandoning obsolete methods and ideas.

More attention should be paid to the artistic, or the esthetic, requirements of mechanical dentistry; then we should the oftener witness teeth selected and arranged as nature would have them, the contour of the mouth restored, and harmony of the features re-established.

It would be better for the interests of the profession if there could be a division of practice, so that it would be an object for dental students, so disposed and having a taste for the mechanical department, to prepare themselves for the exclusive practice of this branch of the science.

I would not entirely dispense with the vegetable bases, for the reason that many are unable to afford anything better, but would advise their use only for that reason. And, when used, advise the use of plain teeth, as by that means more artistic results can be obtained.

## SODA, A REMEDY FOR BURNS AND SCALDS.

BY F. PEPPERCOME, L. R. C. P.

Accidental burns and scalds, even when not very severe, extensive or dangerous, commonly cause so much pain for an indefinite time, depending probably as to duration and severity a good deal on the age of the sufferer, and on the greater or less degree of sensitiveness of the individual's skin or constitution—not forgetting the feverish reaction, and the dangerous internal secondary inflammations that are apt to follow in certain cases—that any easily applied and quickly available remedy and relief, without perhaps the immediate necessity of calling in professional assistance, will be acknowledged as a boon by most persons; and especially so, when it is remembered that the sooner the agonizing burning pain in the part can be allayed the less chance there is of dangerous secondary effects, besides sloughing, etc., so severely trying to children and old persons.

The usual first applications to these painful injuries, whether so-

called *popular* remedies, or such as are usually recommended by members of the profession, are numerous enough, but cannot unfortunately hitherto be considered as generally successful in giving certain and speedy relief from pain, and, too often, intense suffering. One friend will recommend that the parts be covered with flour from the dredger; another will advise fine cotton-wool, or wadding; another, starch in powder, or soap, or treacle, or the so-called carron oil, etc.; but hardly one of such applications can be said to give more than very uncertain or temporary relief from pain, although, perhaps, by occupying the attention of the sufferer, they may in this way prove of some *mental* benefit during his suffering—being indeed employed really for want of anything better—although, in fact, some of these applications, such as flour, treacle, starch, etc., prove so disagreeable in their after-effects, being often difficult to remove and renew, as to add frequently to the poor patient's depression and suffering, owing to their adhering to the injured parts in dry cakes, very irritating to the raw surface.

It is now many years ago that the author of this paper, while engaged in some investigations as to the qualities and effects of the alkalies in inflammations of the skin, etc., was fortunate enough to discover that a saline lotion, or *saturated* solution of the bicarbonated soda, in either plain water or camphorated water, if applied speedily, or as soon as possible, to a burned or scalded part was most effectual in immediately relieving the acute burning pain; and when the burn was only superficial, or not severe, removing all pain in the course of a very short time; having also the very great advantage of cleanliness, and, if applied at once, of preventing the usual consequences—a painful blistering of the skin, separation of the epidermis, and perhaps more or less of suppuration.

For this purpose, all that is necessary is to cut a piece of lint, or old soft rag, or even thick blotting paper, of a size sufficient to cover the burned or scalded parts, and to keep it constantly well wetted with the sodaic lotion so as to prevent its drying. By this means it usually happens that all pain ceases in from a quarter to half an hour, or even in much less time.

When the main part of a limb, such as the hand and forearm, or the foot and leg, has been burned, it is best, when practicable, to plunge the part at once into a jug, or pail, or other convenient vessel filled with the soda lotion, and keep it there until the pain subsides; or the limb may be swathed or encircled with a surgeon's cotton

bandage previously soaked in the *saturated* solution, and kept constantly wetted with it, the relief being usually immediate, provided the solution be saturated and cold. What is now usually sold as bicarbonate of soda is what I have commonly used and recommended; although this is well known to vary much in quality according to how it is manufactured, but it will be found to answer the purpose, although probably Howard's is most to be depended on, the common carbonate being too caustic. It is believed that a large proportion of medical practitioners are still unaware of the remarkable qualities of this easily applied remedy, which recommends itself for obvious reasons.—*The Practitioner.*

### CIRCULATION OF BLOOD IN THE BRAIN.

Signor Mosso, who has been engaged on the subject for six years. has published some new observations on the different conditions of the circulation of the blood in the brain. He has had the privilege of observing three patients who had holes in their skulls. permitting the examination of the encephalic movements and circulation. No part of the body exhibits a pulsation as varied in its form as the brain. The pulsation may be described as tricuspid; that is, it consists of a strong beat, preceded and followed by lesser beats. It gathers strength when the brain is at work, corresponding with the more rapid flow of blood to the organ. The increase in the volume of the brain does not depend upon any change in the respiratory rhythm; for if we take the pulse of the forearm simultaneously with that of the brain, we cannot perceive that the cerebral labor exercises any influence upon the forearm, although the pulsation in the brain may be considerably modified. The emotions have a similar effect upon the circulation of the brain to that of cerebral labor. Signor Mosso has also observed and registered graphically the variations of the cerebral pulse during sleep. Generally the pulse of the wrist and the brain vary oppositely. At the moment of waking, the pulse of the wrist diminishes, while that of the brain increases. The cerebral pulsations diminish as the sleep grows deeper, and at last become very weak. Outward excitations determine the same modifications during sleep as in the waking state, without waking the sleeper. A deep inspiration always produces a diminution in the volume of the brain. in consequence, probably, of the increased flow of the blood into the veins of the thoracic cavity; the increase of volume in the brain, when it takes place. is, on the contrary, due to a more abundant flow of arterial blood to the encephalon.—*Popular Science Monthly.*

### A GLOSSARY OF MICROBES.

Mr. W. Hamlet gives the following classification of the microbes—microscopic organisms of formentation and disease: 1. Microbes which appear as points are called *monads**, *monera**, or *micrococci*. They are motionless, and may be regarded as the spores of other microbes. 2. Motionless linear microbes—the *Bacteridians* and the *bacilli*. 3. Cylindrical mobile microbes, having rounded ends or contracted in the middle so as to form an 8, are the *bacteria* proper. Among them is *Bacterium termo* of putrefaction, the commonest of all. 4. Flexuous mobile microbes. They look and act like eels, and differ but little from the equally active bacteria. They are the *vibrios*. 5. Spiral microbes, resembling a cork-screw, and mobile; spirilla spirochetæ. Their presence in human blood appears to be connected with intermittent fever. 6. Microbes with heads, very active, having globules larger and more refractive than the rest of the body at one or both ends. These globules are apparently spores ready to be detached from a bacterium—*Bacterium capitatum*. Besides these six principal states, the microbes form agglomerations, or colonies, that often notably change the aspect of the elementary cells, and which have received various names. Agglomerations in microscopic masses, surrounded by a jelly that sticks them together and deprives them of motion, are called *zoogloea*. A non-gelatinous membrane formed of motionless bacteria is a *mycoderma*. Bacteria attached end to end in a string form filaments of *leptothrix*. A number of spherical micrococci joined one after another form the string of round grains called a *torula*. A considerable number of species may be included in each of these divisions; and there does not appear at present any way to distinguish by sight a disease producing bacterium from a harmless one.—*Popular Science Monthly*.

### A REMARKABLE OPERATION.

In the session of February 25, of the physico-medical society, at Würzburg (Germany), Dr. v. Bergmann, professor of surgery, showed a man of fifty-six years of age, whose whole larynx had been extir-

**The terms monads and monera are wrongly applied to these specks of microbes. Monads is the name of the whole class of "shapeless" beings to which amœba and monera belong; monads is therefore a zoologically well defined group; while monera is the species name for the class of amœbæ without nucleus; the terms monads and monera have come into general use since Haeckel's writings, and they are properly applied only to distinct but lowly organized species of the Protists family. Moneræ and monads are relatively large—some 0.1 millimeter, while micrococci, which properly belong to this group mentioned in the paper, are less than 0.01 millimeter long.—Sc. Ed. of N. E. J.

pated in January, because of cancer. The man had perfectly recovered thus far, but the most remarkable performance was his speech. At the place of the normal larynx, there was put an artificial larynx, with a pharyngeal canal for swallowing, a tracheal canal for the respiration, and a "phonic," or voice-canal for speaking. When talking commonly, the man whispers, but he is able to speak plainly and loud, though with much expense of air. The vocal cords are of rubber, and, of course, not adjustable, hence the voice is completely monotonous, but as tongue, lips and palate remained perfect, he articulates plainly and is easily intelligible. He thanked in a loud speech to Dr. Bergmann for the successful operation. He pronounces about four words with one breath, after which he has to take a new inspiration. The "subject" is, of course, highly elated at the success. As far as statistics go, there is a fair chance of permanent cure—a man operated on in 1880, by Cerny of Vienna, in a similar manner, still lives perfectly free from any recurrence. The great mistake of those affected is, that they wait until serious symptoms come on, and all the vessels or the cartilage of a long tract of the trachea is infiltrated, and the general health is so far reduced that they are unable to stand the severe pneumoniæ and fevers that are apt to follow the operation. The artificial larnyx was made by the "Orthopaedist," Baüerle, of Tübingen (Germany).

### A CURE FOR INSOMNIA.

In order to promote sleep when it is wanting, it is of course necessary in the first place to remove every exciting cause of wakefulness. The whole chance of success lies in compelling the mind by a strong effort of the will to give up the train of ideas by which it has been occupied, and to take up the less interesting and more simple ideas presented to it. Some years ago a curious plan of procuring sleep by this means was announced as a great discovery, by a Mr. Gardner; and testimonials as to its efficacy were given by the late Prince Albert, Sheridan Knowles, and other men of eminence. This plan, the secret of which was bought by Mr. Binus, and published in his "Anatomy of Sleep," was as follows:

The person, who after going to bed finds himself wakeful, is to lie on his right side, with his head comfortably placed on the pillow, having the neck straight, so that respiration may be unimpeded. Let him then close his lips slightly, and take a rather full inspiration, breathing through the nostrils, unless breathing through the mouth is

habitual. Having taken the full inspiration, the lungs are to be left to their own natural action. Attention must now be fixed upon the respiration. The person must imagine that he *sees* the breath passing from his nostrils in a continuous stream, and at the instant that he brings the mind to conceive this apart from all other ideas, consciousness leaves him and he falls asleep. Sometimes it happens that the method does not succeed. It should then be persevered in. Let the person take thirty or forty full inspirations, and proceed as before; but he must by no means attempt to count the respiratory acts, for, if he does, the mere counting will keep him awake. The plan is at all events safe, and can easily be tested.

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The director of one of the largest public lunatic asylums in Germany lately said to an assemblage of physicians that much of the increase of insanity was due to the forcing process to which children are subjected in the public schools.

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# EDITORIAL.

On January 27, 1882, the first number of *The New England Journal of Dentistry and Allied Sciences* was committed to the care of the mail and sent out on its new and untried mission to the dental world. The proprietors and editors of the same entered upon this work with no little confidence that there was room and a field for such a journal as was contemplated; but, at the same time, knowing full well that all such enterprises require time and persistent work to accomplish success in, at least, a *financial* sense, they did not anticipate a reception that would place the Journal upon a self-sustaining basis before, at best, the close of the first volume. To have so prepared the way, that the *second* volume could start upon its course without being a tax upon the pockets of its proprietors, would have satisfied their expectations.

This being the case, we may perhaps be indulged in occupying a little space to express our appreciation of the fact that the reception accorded to the *Journal* has been such as to warrant us in making the statement that as this, the fourth number, goes to press, it has already become self-sustaining. We are, of course, much gratified, and consider it the highest compliment that could be given us. We

have thus accomplished in *two months* what we had anticipated *might* be accomplished in a year. It shows that, instead of *over*-rating, we *under*-rated the readiness of the profession for a *Journal* that takes high and advanced ground in scientific matters pertaining to its specialty.

It would be a gratification to us to put in print many letters that we have received from the most prominent men in our profession from various parts of the country, but as this is chiefly of interest to us, we forbear to occupy space better devoted to matters of more general interest. To all such, however, we wish to express our hearty thanks.

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In our last number we used the terms "tooth-driller" and "tooth-plumber" with reference to those dentists who think that the ideal of a dentist consists in being able to pack within a given time a certain number of gold-leaves into a cavity. What has brought it about that dentists begin to be treated as special doctors on the same level with other specialists, like oculists? etc. Not all the gold ever packed into cavities would have raised dentistry to a branch of medicine. Dentists forever would have ranked with the barber and jeweler; what raised the standard of dentistry was the broader education demanded from a dentist, or, as the German expresses it well, "Zahnarzt"—tooth-physician. While we, therefore, respect the skilled, properly qualified, practical dentist, we have to consider that we cannot raise the standard recommending more gold, or a certain shape of plugger—no, the general education of the dentist must be raised. Probably every dentist is able to fill a cavity with gold, but to understand the tooth, the action of certain material, etc., that is what we are after, and where we disagree with those who consider gold-packing the chief duty of a dentist. If read in connection with the other words we used in the passage of our last number, every not grossly unfair reader will see that far from belittling the professional skill, we wished only to raise it above the mere mechanical routine, and to recommend at least an understanding of the chief principles underlying the teeth and their history.

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Forty-one new dentists were graduated by the University of Pennsylvania, March 15, 1882—three of them being from New England, ten from foreign countries, and thirteen from Pennsylvania.

## RAMBLINGS AMONG THE JOURNALS.

The *Dental Cosmos*, of March, 1882, is full of interesting reading matter. It opens with an article of Dr. H. Gerhard on Conservation of the Teeth. We consider him right in his view that the cause of failures is often more in the teeth than in the material, that the structure of the teeth of civilized people is less dense than of savages. His statement, "It is a notable fact that the teeth of Americans are more universally and more extensively the subjects of caries than those of other people," might be questioned. In our experience, at least, the Switzerlanders carry off the prize in bad teeth. That the process of mastication is essential for good teeth, seems very plausible, considering analogies with other tissues of the body.

Dr. E. S. Talbot's paper on Treatment and Filling of Approximal Cavities is the second article. We do not enter upon many of the good mechanical details of the article. The suggestions of Dr. E. S. Talbot seem to us very much more reasonable than those of many *artificial* contour advocates.

As usual, the meetings of the New York Odontological Society, November, 1881, are reported. Dr. James Taylor read a paper on Cylinder Fillings. He asks why the pain ceases after removal of the carious portion from a sensitive tooth. If we consider caries as an ulcer, this is very easily intelligible; the center is dead, and, of course, without sensation, but around it is inflamed and diseased dentine, which is sensitive just as the reddened skin around a fistula or an abscess; after this is cut away, healthy, little sensitive tissue is worked on and cut, and the pain is just as much less as from a cut in healthy tissue compared with one in the sensitive tissue around an abscess. What is the advantage of his "gold-cylinders" over a common amalgam filling, if, as he says, that they are chiefly adapted for central cavities? We suppose that almost any material will do for these, and amalgam certainly can be packed quicker still than these—necessarily very imperfect—cylinders, if speed is the chief thing to be gained at the expense of hardness and tightness. Quite a long discussion followed of the soft-gold-men against the cohesive-gold-men, in which it seemed to us that the cohesive-gold-men came off second best, at least as far as convenience for the "subject" and saving of time and risk of imperfectitudes were concerned. Dr. Rich led the cohesive-gold-men, and Dr. Perry the soft-gold-men.

The Treatment of the Dental Pulp occupied the Pennsylvania Association of Dental Surgery. Prof. Buckingham opened the discussion

with a good synopsis, but unfortunately more negative than positive conclusions. Dr. W. X. Trueman recommends—and as it seems with very good practical and theoretical reasons in its favor—destroying doubtful or diseased pulps, and filling the root canal with creasote and cotton. He prefers this to any other treatment; gutta-percha he found of no use in capping exposed pulps, the pulp being generally dead under it, and the gutta-percha disintegrated. Also he, like many other distinguished practitioners, uses arsenic with "fear and trembling." "Secondary dentine" was touched, but no one in the meeting seemed to have experience or an opinion decided enough about it to enter into it.

In an editorial on "Syphilis," reference is made to Dr. J. William White as authority about the frequency of the disease, etc. We suspect that some of the statements are highly overdrawn, or else that the term of "syphilis" is taken with an inexcusable latitude. The "dualists" in syphilis are decidedly the majority nowadays, if weighed, and all seems to point towards the conclusion that they are right; that it is a misuse of the word to use it for soft chancre, for gonorrhœa and similar local affections. Our own medical observation gives much lower figures. Real syphilis is relatively rare in the United States; probably not one person in one hundred is affected by it, while the milder forms, chiefly of gonorrhœa, are quite common. The cases of *doubtless* hereditary syphilis are even very rare; probably many doctors of two or three years practice never met with *decided* cases. The morality, chiefly of New England towns and small cities, is very much higher than in Europe, and the public vice either very much under control or at least so expensive that it is dangerous to less people than in Europe; furthermore, the average age of marriages here is lower than in Europe, where the military service in most countries deprives strong, healthy men of the possibility of marrying before they are twenty-five years old, but exposes them more to the allurements of the great cities, in which the soldiers are generally kept. If syphilis had such terrible effects as it is often claimed by people who get easier scared by a name than by facts, the French would have to be the most wretched creatures. In the eighteenth century, probably every family had one member sick of real syphilis; in Napoleon's time, probably every soldier once came in contact with the great infecting center, Paris; yet bodily and dentally the French of nowadays are probably superior to many tribes among whom syphilis is unknown. The average age of humanity

 in the eleventh century—has risen steadily and without interrup-

tion, in spite of the outbreak of syphilis in the sixteenth century, and its unparalleled prevalence in the eighteenth. Every one of us had some syphilitic ancestor, and yet in every detail the average of the modern civilized American stands higher than the Papua or South America Indian. The best thing is to get control over a disease as much as possible, if we cannot eradicate it. Uniformly in the larger cities of Europe all prostitutes are kept under rigid control; e. g. at Berlin, a prostitute is not molested as long as she attends the examinations of the special health-officers twice a week, who enters his remarks in a kind of pass-book which she has always to keep on her person; the soldiers are examined once every week, and, if found sick, immediately treated, etc.; thus the authorities have the the disease in the "free and easy" Berlin far more under control than in the Quaker-city, Philadelphia, where it is smouldering under a thin layer of hypocritical fear, and undermining in the dark, because a clear understanding of the facts is so utterly lacking.

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In answer to those who think we were too harsh in saying that a dentist who does not understand physiology, is nothing but a mechanic, we simply quote from the *Cosmos:*

"To the specialist in dentistry, if he would rise above the level of mere mechanism, no knowledge is more important than that of the systemic relations of the tissues with which he is more particularly concerned. These statements are truisms; no one denies the importance of this branch of learning; but it is too commonly undervalued and lost sight of by the student and practitioner."

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Our thanks are due to the several gentlemen who have favored us with items for the "Operating Table and Laboratory" department. We trust all such and many more will continue these contributions of practical importance. The *little* things of our every-day experience and practice, that perhaps to us seem trivial and unimportant, may be of very great advantage to some one else and go far towards making up the grand successful whole of our professional life. The fact that "it is more blessed to give than to receive" applies to other things than money.

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The *Alabama Dental Association* will hold its annual meeting in Montgomery, Ala., on Tuesday, April 11, 1882.

At the forty-second annual commencement of the Baltimore College of Dental Surgery, forty-seven out of ninety-three matriculants were graduated. Plenty of music helped to celebrate the event so important for forty-seven new coming men; the Dean, Prof. I. J. S. Gorgas, conferred the degrees, and Dr. Prof. Richard F. Gundry, M. D., gave the annual oration. The forty-second annual session will commence Oct. 16, 1882.

## OPERATING TABLE AND LABORATORY.

Many years ago I experimented with Sulp. Morphine in dental cavities. I found that the narcotic effect produced on the tooth was relatively as to the density of the dentine. In young teeth the narcotism was prompt. The same effect was produced in old teeth or dense teeth, provided the dental pulp was covered with decalcified tissue. But the indiscriminate use of morphine for the painless excavation of cavities I soon abandoned. I still use a simple paste of morphia and oil of cloves for the above purpose, closing the cavity with wax for half an hour, while operating on a less sensitive tooth. For teeth of hard tissue or for *immediate* work, I use a paste of chloride of zinc and bloodroot. Take a drachm of powdered bloodroot and grind into it all the chloride of zinc crystals that can be to make a paste without the addition of water. It will receive water enough from the atmosphere to make a paste. This paste is allowed to remain in the cavity seven (7) minutes, without being wet. It causes some pain for half that time.

HENRY S. CHASE, M. D., ST. LOUIS.

### A FORMULA FOR AMALGAMS.

Prof. Pierce gives the following: "Gold coin, 1 part; pure tin, 10 parts; silver coin, 14 parts. Melt the tin first, and then melt the gold and silver together, and pour upon the melted tin, fusing them well together." One of the essentials in making a good amalgam is in the use of *absolutely pure* tin. The "grained" or "pure drop tin" is well spoken of by some amalgam makers, and can be or *could* be obtained of Morgan's Chemical Works, 67 Fulton street, New York.

S. T.

DR. TEMPLETON: What do you think of using tin at the curvical margin for the sake of its therapeutic effects upon the walls of the cavity?

DR. BLACK: I do not think anything of it. If fearful of impairing the margin of the cavity, I would use ammoniated foil, which is as soft as any tin. The extra cohesive foil (which condition implies the greatest softness, purity and cleanness) will become perfectly non-cohesive by a few minutes' exposure to ammonia, without in the least impairing its softness. It may easily be ammoniated by placing in a box or drawer together with a bit of spunk or cotton damped with spirits of ammonia and closed for a short time. It may be kept thus in a special box for use. It will become perfectly non-cohesive, so that it will not weld any more than tissue paper will weld, and makes the best cushion for margins that I have yet tried. I place such thickness as I may desire on my margin and then secure it by placing cohesive gold over it exactly as is done in covering the margins with tin. Whenever we have foil that is not cohesive after annealing, it is because there is something on its surface that heat will not drive off. Phosphorus and sulphur and perhaps many other things will accomplish that. Ammoniated foil is easily re-annealed, and then welds perfectly. Many of the things that are liable to make foil permanently non-cohesive are of an acid nature and the foil is protected from them by ammonia. All the metals are welding metals, if clean. Gold does not attract oxygen to its surface and so is easily welded cold. Platina does attract oxygen and cannot be welded cold, but by covering platina with gold we can get the welding property of the gold and also of the platina beneath it, and they will become a coherent mass under the plugger. Some persons spoil their gold by annealing in a lamp after touching the wick with the phosphorus or sulphur of the match.—*Trans. Ill. So.*

## AN EXCELLENT METHOD OF TREATING RUBBER DAM.

After the piece is prepared for the mouth, both surfaces should be sprinkled with powdered soap-stone and well rubbed in by hand. The stone as prepared for the shoe trade, known as "Paris chalk," is a good article and it may be scented with something to disguise the sulphurous odor of the rubber that is so disagreeable to some patients. The rubber thus prepared will more readily pass between teeth that closely proximate than that as ordinarily used. It will be found that

the rubber prepared in this way will not tear as easily about the apertures in application to and removal from teeth. A piece of rubber lasts much longer treated this way.

In cases where a series of operations at short intervals between the sittings makes it expedient, for the sake of economy, to use the same piece repeatedly upon a patient, the use of this soap-stone after washing and drying before laying it away will keep the piece soft and fresh. All kinds of rubber dam should be kept in a *very dark, cool place.*

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A few days ago I saw a full set of teeth on rubber plate which were lined on the palatine or gum surface with thin platinum plate. I asked the gentleman the object. He said his dentist told him that it would prevent the absorption of the gums. I replied that there was more humbug in it than common sense. What say you? E.

Having had no experience in the use of plates lined with platina, we can, of course, only speak theoretically. What we claim as giving rise to the evils attending rubber and celluloid plates, is first and mainly their non-conductivity; and, second, their filthiness.

Not one set in ten presented for repair are fit to come within arms-length, much less to be worn in a mouth. This is not entirely from negligence on the part of the patient, but is to a considerable extent owing to the tenacity with which the conglomeration of mucous, etc., adheres to them.

Gold, platina, and even silver are infinitely better in this respect, and if rubber plates are lined with platina so as to present to the mouth as perfect a surface as an entirely metal plate, we do not see why that portion at least is not just as cleanly. At the same time, there is somewhat increased conductivity, which is very much to be desired.

Let us welcome anything that will in the least alleviate the hot, peppery condition of mouths supplied with *either* rubber or celluloid plates—a condition, also, which is so rapidly and extensively followed by absorption of the alveola processes.

What the future is to be of the person who commences at the age of twenty or less with such dentures, is a problem scientists and philanthropists will soon be called upon to answer.

Look at your patients' mouths and ask questions—no, you will not need to ask questions, for it will all be revealed—and if you are conscientious you will have a sad heart.

Will querist be so kind as to inform us as to the thickness of the platina lining, how applied, and where it can be obtained?—ED.

### TAKING IMPRESSIONS AND OBTAINING MODELS.

Take the first impression for a full case with modeling composition; remove from the mouth before fully hard, if the alveolar border is prominent, and press back a little with the thumb the edges overlaying the most prominent parts. Mix the plaster in the usual way and pour it upon this unroughened surface and introduce it; when ready to remove from the mouth, the plaster will not cleave from the composition. Paint the surface with a thin solution of shellac in alcohol; when it is dry place the whole in a bowl of water; when the plaster has become saturated, which will take but a few minutes if the varnish is thin, remove from the water. Take the plaster intended for the model and put it in an excess of water; after it has settled and all bubbles risen pour off the excess of water before touching the plaster with the spatula, then stir and pour. If the tray that has been used is smooth and bright, it may be removed from the impression after the model is hard by first freeing the overlap on the edge and lightly tapping the handle. The composition should be warmed by dry heat and is removed easily, it being ready to lay away after washing.

After one experience, you will say, "No more wax for *me*."

### TO ARREST HEMORRHAGE FOLLOWING EXTRACTING TEETH.

Take a pellet of cotton of suitable size, *partially* saturated with creasote; after which prepare the cavity or socket by syringing it out with tepid water; then touch the pellet of cotton, prepared as above, to a little nitric acid and immediately apply to the socket. Hold it in place for ten or fifteen minutes if necessary. S. T.

Very many teeth, mounted on rubber or celluloid are broken in *removing the plate and teeth from the casing* by hurry or carelessness; dentists often pry their flasks open in a hurry or rap the flask hard with a hammer to loosen the plaster, and by the concussion break the teeth opposite the blow. A few have found it out by sad experience, but more prefer to lay the blame on the teeth than to themselves.

E.

### TO KEEP THE SPITTOON ODORLESS.

Throw into the spittoon before emptying and rinsing five to ten crystals of permanganate of potash. Always keep a little water in the spittoon and in this water about the same amount of the permanganate.

In case a "*barbe*" is broken off and fixed in the pulp canal of a tooth, so that it is impossible to remove it by mechanical means, pack the cavity with common salt, seal with "Hill's Stopping," and let it remain two or three days, when the "barbe" will be found to have become an *oxide* and can be easily removed by thoroughly syringing the cavity with water.

S. T.

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For several years common rosin dissolved in ether has been used to seal the ends of (freshly-cut) tubuli and has proven of good service where common stopping has been used. Will some one give us the objections to the same treatment in preparing cavities for amalgam fillings, to prevent discoloration, provided the edge of the cavities be kept so the amalgam will come in contact with the enamel?

T.

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## BIBLIOGRAPHICAL.

*Fractures of the Inferior Maxilla*, by Dr. Thos. L. Gilmer, Quincy, Ill., illustrated by Dr. G. V. Black, Jacksonville, Ill. It is a paper read before the Illinois State Dental Society, May 10, 1881. If we have to expect any advance in surgery it is from such monographies as the one of Dr. Gilmer. The smaller the subject and the more exhaustingly treated, the better. It is an exceedingly well-given and carefully-compiled paper. But it is with good papers as it is with good women, the best are those about which there is little said, because saying in such cases unfortunately too often has to mean fault-finding. The cuts are very plain. The author is doubtless right in ascribing the displacement of the parts broken far more to muscular traction than to the blow itself which broke the jaw. A slight slip occurs on page 14, where the author says that at the time of Hippocrates a material for ligatures was platinum (fifth century B. C.). Hardly possible, since platinum was only discovered in the eighteenth century, A. D. But we do not wish to consider the monograph any less valuable for this slip. To enter into the many good suggestions for the use of splints, etc., would be of little use here. The pamphlet may prove very useful to every practitioner.

Dr. John J. R. Patrick publishes his paper on *Oral Electricity and the New Departure*, read before the American Dental Association, at

Boston, 1880. His views on the oral electricity are identical with ours, as given in the Independent Practitioner of 1879. Dr. Patrick shows himself a strong chemist, and it would be unfair to split words about a few of his statements that might be questioned. The statement that mercury is an intermediate between liquids and solids, etc., is untenable! While agreeing very well with the author in the first part, we would have to disagree thoroughly about his experiments, and, therefore, we better close. In our March number we discussed the question of the mercury vapor arising from *amalgams* enough to leave no doubt about the facts.

*Medical Specialties*, by Dr. John J. R. Patrick, is a very able paper. The author writes a far plainer style than the majority of dental essayists. What does he call "syphyloid diseases" in distinction from syphilis? They are either syphilis or not, and such an easy term should rather be fought than accepted.

## SOCIETIES.

### PROCEEDINGS OF THE BROOKLYN, (N. Y.) DENTAL SOCIETY.

MONDAY EVENING, Feb. 13, 1882.

Subject for discussion: "Sixth-year Molars."

DR. WILDER read a paper in which he compiled the views of Drs. Clowes, Lord, Kingsley, Atkinson and J. Smith Dodge, Sr., upon these teeth. Collating these as expressions of both extremes in regard to their treatment, he deduced from this compilation evidence of the necessity of a conservative practice.

DR. MIRRICK said that formerly he was influenced by the extreme views proclaimed of saving the sixth-year molars at all hazards, and found that it needed no little courage to remove them; and cited a case of several years ago where he was impressed that he ought to sacrifice all four of these teeth, although sound, yet they indicated to him "too much teeth." After some hesitation he ordered them out. Within two weeks the patient had come into his hands again, and he had had an opportunity of noting the results, and found the teeth in excellent condition, needing but little attention, and felt proud of the success of his plan of treatment. Such an experience impressed upon him the importance of this practice in a large number of cases pre-

senting themselves with arches so small there was no room for thirty-two teeth.

DR. O. E. HILL endorsed Dr. Mirrick's views and added that he, too, knew that it required a good deal of heroism to go against the radical views which had been showered upon us in the past, but he said that times are changing, men are listening, reading and thinking before they act, necessarily with better judgment. Association has much to do with bringing this about.

DR. G. A. MILLS said there were two sides to the question. The theoretical and the clinical aspects should both be viewed and considered. Former discussions referred to were among the *possibilities* of being able to save the sixth-year molars, and so eager was the debate, the thought was lost sight of whether it was *always* best to save it. Now it is fully accorded that it *can* be saved as well as any of the others, and it *should* be when circumstances indicate the necessity for its being saved. We labor under no little difficulty in discussions like this, for we do not have clinical demonstrations at hand to exhibit results. We need *many* cases, not one or two, and they should be illustrated by models, or the patients, both before and after the treatment. Dr. Riggs, to my personal knowledge, has given this subject a prolonged and cultured attention, and had at one time a very large number of models showing the results of actual practice. Unfortunately, these were unintentionally destroyed, but I can bear witness to no little observation in this direction of his work, that it has exhibited a degree of uniformity of helpful results, certainly so far as relief of overcrowding, and correction of irregularity. This was doubtless due to wise discrimination in removing these teeth at the proper period of development. Dr. Riggs would extract these molars at the appearance of the bicuspids. I have observed the results from the hands of another practitioner who was a strong advocate for the removal of the sixth-year molars, but there was not that uniformity in results. While some were excellent, many of the teeth were out of position by an undue width of spaces; isolation of bicuspids, presenting proximal faces where buccal belonged; twelfth-year molars tipping, etc.

DR. A. H. BROCKWAY asked Dr. Mills to what he attributed these differences of results.

DR. MILLS: Lack of discrimination; thought he had arrived at good results in some cases by removing the second bicuspids instead of the molars.

DR. BROCKWAY held the opinion that generally better results were

secured by the removal of the molars, particularly in such cases as the one referred to "of too much teeth."

DR. MILLS said we were soon to discuss an aspect of this subject that had been but little considered or thought of for want of requisite knowledge, i. e., the value of a tooth; or, to put it in another way, the *disorder and disease* caused by the loss of a tooth from the arch. There is in this view of the subject vastly more worthy of our consideration than we are now aware of. Lateral support means something, and the loss of this support has a very potent influence on the conditions of the tissues, physically. Too much relief may be secured. Taking this view of the matter, we are reminded that all has not yet appeared to us that is to be known of this subject. When we *know* more of the building of tissues, we will discuss these questions understandingly and with profit.

Reported by "OUR SPECIAL."

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THE CONNECTICUT VALLEY DENTAL SOCIETY will hold its semi-annual meeting at Amherst, Mass., June 29 and 30, 1882. The various Section Committees are arranging most interesting reports. An essay by Dr. J. L. Williams, of North Vassalboro, Me., is promised, entitled "Studies in the Pathological Histology of the Teeth and Contiguous Parts." This paper to be illustrated by a stereopticon. Arrangements are perfecting for the exhibition of a few microscopes.

Per order of Executive Committee,

A. M. ROSS, Secretary.

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## CORRESPONDENCE.

NEW YORK, March 17, 1882.

MY DEAR EDITORS: Consciousness of usefulness to the readers of the *Journal* would be a sufficient compensation for any communications given it. But there's the rub, for the new and the old, are so blended, by being alternately dominant and sub-dominant in the effort to attain the useful, that it becomes a herculean task to point out the useful in the new and the old, and the obstructive cogitations that lay behind the practical execution of works of the head and heart in presenting demonstrative explanations by which knowledge is attained and con-

summated. This enables us to do the least amount of mischief and attain the greatest good in our attempts to help ourselves and others out of the darkness of non-knowledge into the light of the clear comprehension of normal functioning, whereby we become able to distinguish health from disease, and to perceive the clear indications of how to remove the obstructions to natural processes, so that nature may resume her sway, or to devise the best possible substitutes for the lost tissues and organs that come to us for rectification, redemption, or substitution. BREATH becomes old by conversion into *blood*. Blood ages by the metamorphosis which makes it pabulum; and this by merging into protoplasm, and this into embryonal corpuscles, which in their turn ripen into the tissues which compose the organs or the machinery of the various functions pertaining to the human body. These are the stages through which the seriated energy of LIGHT is converted into all the modes of motion displayed in the mental, affectional and bodily manifestations of the transmuting of emotion into motion, or, when speaking of individual existences of emotions, into motions which reveal the typal limitations of systems, organs and tissues, whereby classification may be understandibly formulated. He who adequately presents us with the statement of the processes by which the unseen breath becomes the cognizable blood and all its derivatives, in tissues with predominance and subdominance of mineral, vegetable, animal, and human characteristics, will be the apostle of the revelation of involution and evolution, sustenance and destruction of all the bodies that depend for their maintenance upon food. Now, my dear Yankee boys, this is the text for you to work out, and crown yourselves legitimately "Sons of the East—Sons of Light"—*Real Illuminati*.

Ever the same, ATKINSON.

## OBITUARY.

### DR. M. S. DEAN.

Died, at Chicago, Ill., January 28, 1882—MASON STILLMAN DEAN, D. D. S., aged 57.

Perhaps never before in the history of dentistry in this country has the announcement of the death of a member of the profession been received with more sincere and universal sorrow. The expression of those most intimately associated with Dr. Dean is pathetic and touching in the extreme. The reason for this is apparent, we think, to even those

who have but *casually* met him. The exceptionally fine qualities of the man shone *clear* and *unmistakable* in every feature of his face, and to have known him in the closer relationships of social and professional intercourse must have been regarded as among the most helpful, inspiring and uplifting experiences that this world of ours affords. To thus in *reality* approach the grave, "like one that wraps the drapery of his couch about him and lies down to pleasant dreams," is a most fitting close to a life that leaves nothing but benedictions behind it. In addition to the many testimonials of his high character, we print the following from the

ST. LOUIS DENTAL CLUB.

At a meeting of the St. Louis Dental Club, held on Monday evening, January 30, 1882, Dr. Spalding announced the death of Dr. M. S. Dean, of Chicago. A committee was appointed to report suitable resolutions on the occasion. The committee subsequently reported the following, which were unanimously adopted:

WHEREAS, Intelligence having been received of the sudden death of Dr. M. S. Dean, of Chicago, therefore,

*Resolved*, 1st.—That in the death of Dr. M. S. Dean, the profession of dentistry has lost one of its brightest ornaments, and one of its most useful members.

2d. That few practitioners of dentistry have devoted their time and talents to the study and investigation of the more obstruse and occult branches of dental science, to the extent that Dr. Dean has done. The results of his labors in this direction have served in an eminent degree to familiarize dentists with the subjects of his particular line of study, and thus to largely promote a more general knowledge of this branch of dental science.

3d. That in appreciation of his merits as an investigator, and of his character and standing as a professional gentleman, he has been made the recipient of the very highest honor within the gift of the dental profession in this country, viz.: the presidency of the American Dental Association. He also filled the responsible position of recording secretary of the same body for several years, and discharged its laborious duties in a manner creditable to himself and highly satisfactory to the members of the association.

4th. That we sympathize with the dentists of our neighboring city in the great loss they have sustained by his death, and with the relatives and friends of the deceased in their sudden bereavement.

5th. That a copy of these resolutions be sent to the Chicago Dental Society, and to the dental journals for publication.

C. W. SPALDING, Chairman,
A. J. PROSSER,
WM. N. CONRAD,
*Committee.*